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AUTHOR Kearney, Kerri S.; Hyle, Adrienne E.

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ABSTRACT

This paper outlines the use of participant-produced drawings as part of a larger study that examined the emotional impact of change on individuals in an educational institution (Kearney, 2002; Kearney and Hyle, 2003). Participants were four teachers and five staff or administrators at a branch campus of a technology training school. Both the participants' and the researcher's perspectives on the drawing methodology used in this study provide the foundation for findings that drawings: (1) create a path toward emotions; (2) lead to a more succinct representation or participant experiences; (3) require additional verbal interpretation by the participant for accuracy; (4) are an unpredictable tool for encouraging participation in research; (5) combat researcher biases when left unstructured; (6) are affected by the amount of researcher-imposed structure in the scope of how they could be interpreted; and (7) help create the triangulation of study data. (Contains 10 figures and 14 references.) (Author/SLD)



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Kerri S. Kearney, M.B.A., Ed.D. Director of Client Services Character of Excellence, LLC 3610 S. 74th West Court Tulsa, OK 74107 Phone: 918/447-3793

Fax: 405/447-7784
Email: kerri@characterofexcellence.com

Adrienne E. Hyle, Ph.D.
Professor, Educational Leadershp
Associate Dean of Administrative Affairs
Director of Extension Education
Oklahoma State University
106 Willard Hall
Stillwater, OK 74078-4034
Phone: 405/744-9893

Fax: 405/744-7713 Email: aeh@okstate.edu U.S. DEPARTMENT OF EDUCATION Office of Educational Research and Improvement EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
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Abstract

In this paper, we outline the use of participant-produced drawings as a part of a larger study which examined the emotional impact of change on individuals in an educational institution (Kearney, 2002; Kearney & Hyle, 2003). Both the participants' and the researcher's perspectives on the drawing methodology, as used in this study, provide the foundation for our findings that drawings: 1) create a path toward emotions, 2) lead to a more succinct representation of participant experiences, 3) require additional verbal interpretation by the participant for accuracy, 4) be unpredictable as a tool for encouraging participation in the research, 5) combat researcher biases when left unstructured, 6) be affected by the amount of researcher-imposed structure in the scope of how they could be interpreted, and 7) help to create triangulation of study data.



In organizations, drawings have traditionally been used to depict mechanical designs or conceptual models, to portray organizational structure, and to communicate information to colleagues. There are exceptions, however. More than 20 years ago, Meyers used diagramming as a part of an organizational adaptation study in the medical field (Miles & Snow, 1978), and his work is one of the earlier examples of the use of drawings and diagrams as a part of organizational research. Others have also successfully used drawings as a part of data collection in organizations—some for research purposes (Nyquist, Manning, Wylff, Austin, Fraser, Spraque, Calcagno & Woodford, 1999; MacLure, 2002; Meyer, 1991; Trower, Austin & Siorcinelli, 2001; Zubroff, 1988) and still others have used drawings to bring to the surface important thoughts and emotions as a part of organizational interventions (Vince, 1995; Vince & Broussine, 1996).

In 1990, Nossiter and Biberman conducted a study specifically for the purpose of examining the usefulness of drawings as a research methodology. They concluded that drawings "focus a person's response" and lead to "respondent honesty and parsimony" (p. 15). Further, they noted the willingness of respondents to draw and the joy expressed in completing the activity with the observation that the activity may have increased respondent response rates.

Meyer (1991) also found that the request for drawings seemed to increase response rates, noting that every CEO contacted in his study completed the requested diagram but seven of 22 "failed to return an accompanying questionnaire" (p. 227).

Drawings may also be a more specific or direct route to the emotions and unconscious responses underlying behaviors during change (Vince, 1995). Imagery can "bridge the gap between the apparently individual, private, subjective, and the apparently collective, social, political" (Samuels, 1993, p. 63). In his 1988 study, Zubroff found that, for clerical workers



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experiencing organizational change, "pictures functioned as a catalyst, helping them to articulate feelings that had been implicit and hard to define.... These simple drawings convey feelings that often elude verbal expression" (Zuboff, 1988, pp. 141-142).

While drawings may be a more common data collection tool today than in the past, they remain a non-traditional methodology about which only limited research has been reported. In this article, we outline the use of participant-produced drawings as a part of a larger study which examined the emotional impact of change on individuals in an educational institution (Kearney, 2002; Kearney & Hyle, 2003). We used participant produced drawings in this study for two reasons. First, both the literature (Vince, 1995; Vince & Broussine, 1996; Zubroff, 1988) and our previous organizational development experience suggested that drawings were a way to tap quickly into the emotional lives of participants. Second, the use of drawings as a catalyst for unstructured interviews, an integral part of the study design, afforded participants every opportunity to frame their own experiences, unencumbered by our biases about people and organizational change. As noted by Denzin and Lincoln (1994), "the open-ended interview rests on the assumption that the researcher will ask questions that are culturally meaningful to the subject" (p. 410). The photograph or drawing-based interview uses participant-produced images as a guide. This suggests strong collaboration between researcher and participant and, as such, "the marriage of visual methods and ethnography seems natural" (Denzin & Lincoln, 1994, p. 410).

In other reports of the use of drawings in organizations (Meyer, 1991; Nossiter & Biberman, 1990; Vince, 1995; Vince & Broussine, 1996), conclusions about the efficacy of drawings were reported primarily from the researchers' observations and analyses of participant responses as well as researcher analysis of the drawings themselves. This is valuable



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information and an important perspective. However, we chose to ask the participants themselves how the request to draw changed their responses and affected the information they shared. Both the participants' and the researcher's perspectives on the drawing methodology, as used in this study, provide the foundation for our findings.

Procedures

The study site was a rural branch campus of a technology training school. The school was part of a larger state system of technology school districts located in the southwestern part of the United States. The districts served high school students concurrently enrolled at their "home" high school and at the technology school, adults, and business and industry clients. School funding came from a variety of sources including local and state taxes, revenues from tuition and fees, federal grants, and loans. At this site, there was a single superintendent with a tenure of 17 years and two assistant superintendents—each with the responsibility of a single campus.

The primary focus of the study was the emotional impacts of ongoing local level change. In this case, the branch campus had experienced a change in leadership (a new assistant superintendent was hired) approximately 18 months prior to the study which brought extensive changes in organization, philosophy, and practice. A secondary focus for the study evolved from initial interviews when participants identified the additional threat of pending state level or systemwide change. Almost half (40%) of the faculty and administrators who had been employed prior to the administrative change, specifically four faculty and five staff or administrators, participated in the study. Participants' years of service to this school averaged 8 years and total years of service in education averaged 18 years. The participant group included seven females, slightly more than in the overall employee population (78% while the population



was 63% female). In addition, seven were under age 44 (78% of study participants versus 40% in the general employee population).

Procedures

Each participant was asked to make two drawings as entry to a one-on-one unstructured interview—one drawing represented their experiences of ongoing local change and one focused on their experience of pending state level or systemic change. Each participant was provided a blank page of a 17" x 20" drawing pad as well as a 64-color set of crayons. The time allotted for the drawing activity was 15 minutes per person. We moved away from the respondent while he or she was drawing, but remained in the room. The following instructions were given verbally:

Draw a picture or series of pictures that describes what this change has been like for you—your experience of the change. If possible, try not to use words. You are not going to be evaluated on your artistic ability. "Stick people," for example, are fine.

Participants were then asked to interpret their drawings. These interpretations provided the context and served as a guide for the unstructured interviews that followed.

Follow up activities with participants focused on the use of drawings in the interview process as experienced by the participants. Participants were given the opportunity to review their local level drawings and all were asked a similar set of questions about their experience, as well as encouraged to add other pertinent information. Although participants drew different pictures and recounted different concerns about both local and state level change, no response differences were noted across faculty, staff or administration.

Data and Discussion

Participants were first asked about their initial feelings in response to the request that they draw as a part of the research process. All admitted that it was surprise to them with one noting



that it "didn't seem very conventional for research." Over half of the respondents reported their initial negative responses resulted from a lack of confidence in their artistic abilities. One said her first thought was, "I'm a terrible artist. I hope I can do what I'm supposed to do." Another noted that her initial response was more about "not feeling confident about the technique [of drawing] rather than sharing emotions. If I had been asked to write, okay." Still another respondent said "I'm not an artist so it gave me a little anxiety." These responses aligned well with our observations recorded in the field.

Several participants responded to the request to draw with flat facial expressions and paused before responding. The movements of others seemed to freeze up temporarily as if absorbing information that was not welcome. One noted that if she had known she would have to draw, she probably would not have agreed to participate in the study. While her comment was made with some amount of humor, her facial expression and mannerisms suggested there was an element of truth in her statement.

Two people seemed to think that their particular personality type may have been a factor in their discomfort. One said that detail-oriented people like herself "are stressed because they cannot be accurate and precise. Drawing leaves room for feelings and emotions and things we don't want to express." Another added, "I wasn't prepared. If I had known ahead, I would have had something explicit."

Only one respondent initially described the drawing process as "fun." One other respondent, who had previously reported an initial lack of confidence in her ability, later admitted, "It was cool to get colors. It was fun to play again." This participant spent more than the average amount of time drawing, although she noted that it was not her "strength." She also was observed to use multiple crayons out of the box and to rotate the pad of paper to gain a good



angle for whatever she was working on, as well as to review her work. Both her efforts and her enjoyment, although not her initial reactions, were anomalies with this group of participants.

The fact that most participants did not appear to enjoy or become excited about the opportunity to draw conflicted with reports in earlier research. To complete their study on the methodology of drawings, Nossiter and Biberman (1990) used participant produced drawings to compare workers' perceptions of their organizational culture. They found that the respondents' "expressions of enjoyment in completing the [drawings] suggest this rather unusual request for creativity may be quite motivational in getting respondents to analyse their organization" (p. 15). In a 1978 study of hospital CEOs' perceptions of their environments, Meyer (1991) observed that "CEOs found diagramming their environments to be an engaging activity" (p. 227). Such was not the case with this study. While no participant refused to draw, their behaviors, comments, and later recollections of their initial responses were ones of resistance. Interestingly, as in this study, Derry (2002) also encountered resistance to drawing from a participant due to artistic ability. However, the resistance of her respondent was reportedly due to meanings the respondent attached to the activity because she was an accomplished artist. This was in direct contrast to the reasons given for resistance (lack of artistic ability) in this study.

There was a three to six week time period between when participants completed their drawings and when the follow up interviews were conducted. After reviewing his or her drawing, each participant was asked what assumptions might be made about the artist's experiences based solely on the drawing itself. Responses to this request to attempt to view their drawings through unbiased eyes were varied. In an echo of the responses previously reported, one participant immediately exclaimed, "He or she is <u>not</u> a good artist!" Many others described assumptions similar to what the drawing was originally intended to mean. Some believed the



face value of the drawing left its interpretation to chance. In reference to Figure 1, this participant said, "This person is either pulling her hair out or is happy. She does have a smile on her face. We may not know for sure." About her drawing, another participant laughingly noted, "There's no real message. Someone else would just say 'I don't get it'."

Insert Figure 1 about here

However, when respondents were then asked whether their drawings captured the "heart" or the "core" of their personal experiences, eight of the nine said that it did. The respondent who produced Figure 2 said, "Pretty much. Except there is nothing that really shows some anxiety. That could have been added in." For some, "capturing the heart of their experience" could only occur if they were given the opportunity to explain the drawing. "Knowing what it means, it does capture the key part of my experience with change." One respondent paused, intently perused her drawing and said slowly, "Yes. It captured it better than I originally thought."

Insert Figure 2 about here

Following collection of all the drawings and completion of all interviews, a comparison was made between the drawings produced and the verbal reports of respondents. In general, there appeared to be consistency between the drawings and verbal reports although, in most cases, the meaning of the drawings could only be fully understood with the participant's interpretation.



Some drawings represented only the single factor in the change that had most impacted the individual. The drawing process itself seemed to cause the related emotions to be internally accessed, and therefore more readily available to verbal sharing, even if the emotions were not clearly a part of the drawing itself. For instance, in Figure 3, this respondent clearly drew a large number of activities occurring in small increments of time. The arrows, often labeled with the word "run," depict his movement through the activities with the clock ticking off time in only a couple of minutes per stop. The verbal report of this participant was filled with a very strong emphasis on the increased pace at the school site, and this change was at the root of a loss of a sense of closure and changes in the relationship to the team. However, overall, this participant reported being excited and challenged in positive ways by the change, even if it brought some elements of loss. His drawing provided the foundation for the related emotions to be shared and remained accurate as a representation of the key factor in his change experience.

Insert Figure 3 about here

Other drawings such as Figures 4 and 5 were unique in that they represented the overall processing of the change by the participant rather than a specific piece or event in the change process. Figure 4 depicts a jump from dry land into rough waters, which were adjacent to calm waters and a lighthouse. This participant included elements of loss, struggles, and related emotions in her processing of the change, as depicted by the rough waters, as well as her movement into the calm waters and accepting emotions she held at the time of the interview. She envisioned her process taking her toward the lighthouse or "light at the end of the tunnel," a metaphor for where the most intensive processing of the change was already culminating in



peacefulness.	By describing her drawing	ng and its meaning	, she very eloquer	ıtly laid out	what we
saw as a griev	ving process for organizat	ional change.			

Insert Figure 4 about here

Figure 5 was also a visual about the processing of change. The facial expressions in this drawing led the viewer through a series of emotions related to the change, a very apt depiction of the experience this respondent described. At the time of the interview, she was continuing to struggle with the impact of the change that was the focus of her drawing. Interestingly, it was possible to actually observe her continued progress toward resolution in later follow up interactions with her. She was in the process of experiencing numerous emotions, and this was supported by the changing faces in her drawing. This tide of emotions was the key component in her experience of change.

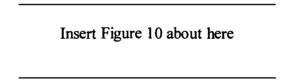
Insert Figure 5 about here

The state level change drawings were similarly accurate in their match to the verbal reports of respondents. Large "X's" across buildings depicting the school in Figures 6 (non-faculty) and 7 (faculty) communicated participants' overriding concerns that their school would cease to exist. While a dead flower, raindrops, broken computers, and the job listings shown in Figure 8 (faculty) clearly showed this participant's thoughts about what would happen to the school if proposed changes were implemented.



Insert Figure 6 about here
Insert Figure 7 about here
Insert Figure 8 about here

Figures 9 and 10 clearly communicated emotion. Figure 9 (non-faculty) was eloquent in its simplicity: two faces appeared in the drawing, one labeled "happy," the next labeled "stunned." Figure 10 (faculty) depicted a red face and gritted teeth. This respondent reported a great deal of anger.



According to both the participants' follow up reports and after comparison of the full interview transcript to the drawings, the drawings seemed to fairly represent the key components of each participant's change experience. When the primary emotions were not vividly evident in the drawings, the process of drawing itself seemed to prepare respondents to more easily share these emotions as a part of their personal interpretations of the drawings. These finding are supportive of the findings of Nossiter and Biberman (1990) and Vince and Broussine (1996), who also found the drawings of their study participants were well matched with the verbal reports of participants.



Outcomes of Drawing

One of the assumptions made when selecting drawings as a data collection tool was that this activity would require respondents to use a different cognitive process than that used if asked to verbalize or write about their change experience. The hope was that the use of drawings would lead to reproduction of "the single most salient feature or perception" (p. 13) of the experience, as found by Nossiter and Biberman (1990). Likewise, it was hoped that, as Zuboff (1988) found in his study of clerical workers and departmental change, the drawings would function "as a catalyst, helping [participants] to articulate feelings that had been implicit and were hard to define" (p. 141). Vince (1995), too, had found that drawings "usually capture the underlying emotional issues present" (p. 11).

To explore these issues, each respondent was asked two questions. First the participant was asked to describe the mental process undertaken to produce the requested drawing.

Respondents reported the process did, indeed, cause them to just

hit the high points and the things we must know. It might have tapped more things if asked to write but it got more key things when I was asked to draw because I left the secondary, or less important things, out.

Other respondents agreed. One described her experience of the process as "trying to figure out how to make it simple, to make the point known." Another said, "I took myself back to sample days and times. It brought back specific visual images in time" (non-faculty). Still another said,

Because I couldn't explain it in words, a lengthy explanation, I had to explain it all in one piece. I wanted to be able to look at it and get all the thoughts. I felt pressured into capturing the face value and that's it. No accessories.



Two of these respondents made references to their difficulties in producing a drawing. One said, "I was frustrated. I had to figure out how to get what was in my mind through my hand and to paper. It was hard trying to come up with something that accurately represents it and present it in this medium." The second said, "I'm not one to describe in pictures. I am a words person. I had to find a visual to describe thoughts. Finding this visual mentally was not hard; drawing it was." Interestingly, in both these cases the respondents were certain that their drawings captured the "heart" of their experiences. The first respondent further noted that she saw the value in the process. "It makes people get out of the box and we sometimes need to be moved out. It makes you focus and think about how to make it succinct and make sense to someone."

Although no reference to feelings was made in the request to describe the mental processes produced by the request to draw, four respondents referred specifically to their feelings as a key components in their processes.

I was trying to picture a concrete picture of how I'm feeling, whether it was something that could be drawn. I wouldn't have thought as hard [without drawing]. I wouldn't have spent as much time thinking about how I feel."

Another seemed a bit chagrined at her reaction to the request to draw, "I had to think about personal feelings. I thought it was weird later because I didn't focus on students." Another noted, "I had to think of facial expressions to emphasize feelings. I probably went to my feelings faster" while still an additional respondent said, "I had to visualize how I felt, what emotions."

The second question asked each participant if they believed that the drawing process caused them to share "different things" than what would have been shared if they had been asked to describe their change experience verbally. All but one participant responded with a



resounding "yes." One said simply, "I accessed information differently than if asked to do so verbally. It brought out some things you wouldn't have had otherwise." Again, some respondents went directly to the issue of the feelings. "There were probably a few more emotions that came out due to drawing." Another who had previously said he probably went to his feelings faster added, "I probably also expressed my feelings more thoroughly." Still a different respondent said that drawing "pulls together some thinking processes that don't necessarily get pulled together in a spoken process..... There were probably a few more emotions that came out due to drawing."

Nossiter and Biberman's (1990) report also found that drawings lead to "respondent honesty" (p. 13). Some respondent experiences seemed to support this finding. "It probably made me more blunt about my feelings because I had to draw them first. If I were just telling someone, I probably wouldn't have made it that blunt." One respondent, who had reported previously that the request to draw had caused her anxiety, reluctantly reported, "I probably tapped into things I wouldn't have gone to. I probably shared more depth because of the drawing... much as I hate to admit it."

Only one participant reported that the request to draw did not impact the details of what she shared. She gave a suggestion as to why this may have been the case when she said, "In talking and letting feelings out, it lifted a burden off my shoulders." This suggested that drawings may not be necessary as an elicitor of information if respondents already see particularly strong benefits in sharing.



Sharing

Informal feedback during the course of the study indicated that the experience of drawing and a related curiosity about their colleague's drawings were popular topics after respondents left their interviews. The motivation behind this focus on drawings was explored during follow up interviews. Only one respondent reported no real curiosity about others' drawings. Others seemed to think that the drawings would provide them particular insight into the other participants' "perspectives on situations." One respondent said "I may learn . . . things they kept to themselves. Some, I would have no idea what's bothering them." Another respondent said, "I want to see if I'm the only person feeling turmoil." While still another reported that he believes he "will learn . . . expressions of emotions" from the other drawings. Apparently with some concern about her colleague's artistic abilities as well as her own, one respondent said, "I would like to think I would learn. But only if they are better artists!" A final participant re-emphasized concerns that had surfaced previously about artistic ability when she voiced her desire to see if the others also used "stick figures."

Findings

The experiences created by the use of participant produced drawings in this study, combined with the experiences reported in the literature, led to a number of observations about the application of this methodology. These findings provide areas of consideration for other researchers who seek to use visual data in their work.

Participant produced drawings appear to create a path toward participant emotions, making them viable tools for researchers who seek access to this type of data.

Vince (1995) and others have found that "drawings are good at revealing the underlying emotional experience" (p. 12) and this was certainly found to be true in this organization. As



noted previously, multiple descriptions of the cognitive process in preparation for drawing described a pathway to feelings, although no reference to feelings was made in the request of participants to describe their mental processes. For many, it appeared that they simply believed that the best vehicle for visually representing their experiences of the change were the feelings that the experiences had evoked. Several noted that less or different emotional information would have been reported had the drawing exercise not taken place.

The cognitive process required to draw leads to a more succinct representation of the key elements of participants' experiences.

Reports of the mental process employed by the participants in this study, as well as the outcomes derived from the drawings, suggested that the production of a drawing helps respondents to make sense of their reactions. The mental process required by drawing helped them to begin sort their experiences to date into succinct pieces and attach meaning to them. This outcome of the drawing process itself may also prepare them to process their experiences more easily.

The personal experience depicted by participant produced drawings could only be considered complete with additional interpretation of the drawing by the participant.

Nossiter and Biberman's (1990) suggested that drawings could be analyzed and interpreted by graphic artists and clinical psychologists, and this seems a valid, but additional, option. Interpretations of drawings in this study were conducted by the participants themselves. In part this was due to the intended purpose of the drawings as an elicitor of information for a long interview. As Vince (1995) observed, the power of the drawings was "not only in the diagnostic power of the images themselves, but also in the contextual and collaborative discussions and developments that emerge as a result of them" (p. 12).



To have interpreted the drawings independent of the participants in this study, no matter how capable the source, would likely have resulted in omissions and, perhaps, serious misinterpretations. One example occurs with Figure 10, which depicts a flock of birds in flight. The participant herself noted that this part of her drawing might easily be misinterpreted. In explaining the birds, the faculty member said, "You would probably think of this as serene. No! I hate to fly . . . It scares me to death . . . But that's my feeling of insecurity." To fully understand the meaning of her drawing, further explanation about her personal fears was needed from the participant herself.

It could certainly be argued that in some cases drawings produce unconscious thoughts and feelings that may be identified by trained professionals. The whole psychological concept of "unconscious" suggests that the participant may be unaware and therefore unable to fully communicate these issues. However, caution should be applied in making any interpretation independent of the participant's explanation, as well as a complete understanding of the context—both of the change and of the drawing activity.

Whether the drawing activity encourages or discourages participation in the research process is dependent on individual and situational characteristics and its impact may be unpredictable for any given study.

Observations of the participants in this study suggested an overall reluctance regarding the request to draw. Follow up interview data showed that the primary issue behind participants' reluctance was concerns about their artistic abilities—a personal characteristic. For this reason, drawings as applied in this study could not be described as a positive factor in getting respondents to participate in the research; if anything the knowledge that they would be asked to draw may have deterred them from participation.



As noted previously, this contrasts with other findings reported in the literature and suggests the need for continuing inquiry into the causes of respondent reactions to the request to draw. One question raised is whether asking participants to draw one-on-one or in groups affects their initial responses. Both Nossiter and Biberman's (1990) and Meyers' (1978) requests to draw occurred on an individual basis and found that participants displayed "enjoyment" and became quite "engaged" in the activity. Derry (2002) also made her request on an individual basis and had only one resistor. However, while the request was also made on an individual basis in the current study, this was not found to produce positive responses. Vince and Broussine's (1996) requests to draw occurred in various group settings and they also reported positive responses to the request. It is unknown if the responses of the participants in the current study would had been different had they been asked to draw as a part of a group activity rather than as individuals, but this remains a valid question for future inquiry.

Finally, the timing of the request to draw may impact the reaction of the respondent. For instance, Derry (2002) concluded that she received generally positive responses to her request of her participants to draw primarily because the request was placed late in the one-on-one interviews. She explained this by saying that the placement of the request after the bulk of the verbal interview had been completed had allowed respondents to develop a level of trust for the researcher. While this may be a very valid explanation, it must be balanced with consideration of the fact that placement of the request to draw late in the interview may negate the value of using drawings as a tool for combating researcher bias (see next Finding for more information).

From this study and the available literature, it seems the only common finding is that the drawing activity itself evokes powerful responses from some participants. However, because of



the varied and sometimes conflicting reports on participant resistance, there is not yet sufficient evidence to allow the researcher to predict respondent reactions with any accuracy.

The provision of little structure in the drawing activity allows for participants' unique experiences to be communicated. This lack of boundaries helps to combat any preconceived biases of the researcher that might have otherwise been unintentionally imposed.

Like Meyer (1991), in this study we found that "visual instruments seem uniquely suited to situations where a researcher . . . prefers not to force informants into his or her cognitive framework prematurely" (p. 232). The lack of structure in the drawing exercise encouraged participants to identify whatever component or components of their experiences with change most impacted them. This varied across respondents and was unique to both their personal characteristics and positions in the school environment. Due to the lack of structure, participants were encouraged to present specific pieces of information about the components of the change they chose to address. This prevented us from forcing participants into a particular perspective and, perhaps, leaving untouched the most significant experiences of the change to the participants themselves. It appeared that the lack of structure in the drawing activity was one way to combat our biases, as well as to accomplish the qualitative research goal of accurately representing participant experiences. However, there are two additional issues to be considered.

Unlike Derry (2002), the use of the drawing methodology to combat researcher bias required that the request to draw be placed at the beginning of the interview process—before the reports of participants were influenced by the researcher. As noted above, the placement of the request before extensive interaction between the researcher and participant may have compounded some of the initial negative reactions of respondents to the request to draw.



In addition, as Meyer (1991) stated, there is a danger that drawings produced under conditions of little structure may be so far off target of the focus of the research as to be useless. This structure versus lack of structure dynamic is an important balance, as is the concern about respondent resistance and the timing of the request to draw. Both issues should be the subject of serious consideration by any researcher using participant produced visuals.

The amount of researcher-imposed structure on the drawing process is a determinant in how the drawings may be interpreted.

Nossiter and Biberman's (1990) study included a request to draw that was semi-structured by the researchers. Because of the imposed structure, these researchers were then able to make comparisons across the participants' views of their culture. Other than a discouragement of simply writing words on the page, the drawing process in the current study was left unstructured. Because each participant held a very unique view of the organizational change, this meant they sometimes used completely different components of the overall change as subjects for their drawings. In this case, the drawings did not lend themselves to making comparisons across participants. Rather, this activity created an opportunity only to consider how well each drawing communicated the core experience of its artist when compared with verbal reports or other information for each individual.

In his outline of the benefits and liabilities of the use of visual data, Meyer (1991) supports this difference in the use of unstructured and researcher-structured requests for drawings.

Informant-generated visual displays . . . are most appropriate for ideographic inquires treating each informant or organization as a unique entity. Researcher-generated displays [those where the researcher provides structure], on the other hand . . ., appear more



suitable for nomothetic inquires seeking to draw comparisons across informants, organizations, or time. (p. 232)

Meyer's observations appeared to hold true in this study as well.

Commentary and Recommendations

In addition to the findings of other researchers using drawing methodologies, the findings of this study further establish that drawings are an important additional source of data. The demonstrated ability of drawings to create a path to participant emotions and to lead to succinct representations of their experiences appeared to create the opportunity for more meaningful and honest verbal reports—arguably the methodology helped respondents reveal more than what may have been captured with only the unstructured verbal interview.

At the very least, drawings served as powerful confirmation of the participants' verbal reports and observations made at the school site, as well as informant reports. In this way, drawings served as a confirmatory piece of the other data in the study. This supported Meyer's (1991) contention that integration of visuals with verbal reports can be useful as an additional form of triangulation. As noted by Merriam (1998), data triangulation lends further credibility to study results.

The efficacy of the use of participant produced drawings in qualitative research is still a largely unexplored area. While the current study adds to what has been found in previous studies, there is still much to be discovered about the uses and implications of this methodology.

Larger studies with greater sample sizes need to be conducted to determine if drawings create positive contributions consistent with those found in this study, as well as to provide additional guidance on the best application of the methodology. Additionally, further research may answer some of the questions to which this study did not bring clarity. Two of these issues,



addressed previously, are whether the use of drawings in an individual versus a group setting influences participant reactions, as well as how the timing of the request to draw influences the initial reactions of participants. An additional question would, of course, be the impact of the setting on the <u>outcomes</u> (i.e.: consistency with verbal reports, participant honesty) of the process.

In addition to larger studies, longitudinal studies would contribute much to existing knowledge about the drawings methodology. While this study captured the present responses of participants, they were forced to rely on memory for communicating past responses. In addition, the study design did not allow for the collection of future data that, if collected, would have allowed comparisons of the efficacy of drawings at different points in the process.

An additional and unanswered question for us was the impact of the surfacing of emotions using drawings without a commitment to meeting the desires of participants to view and interact with other participants regarding their work. Confidentiality commitments made prior to data collection for this study prevented bringing participants together in a process similar to team debriefing practices used by organizational development professionals. It is a remaining ethical question as to whether some type of debriefing process should be incorporated with the use of participant produced drawings. This is in addition to the question of what additional depth and breadth of data may be provided by observations of the debriefing process itself.



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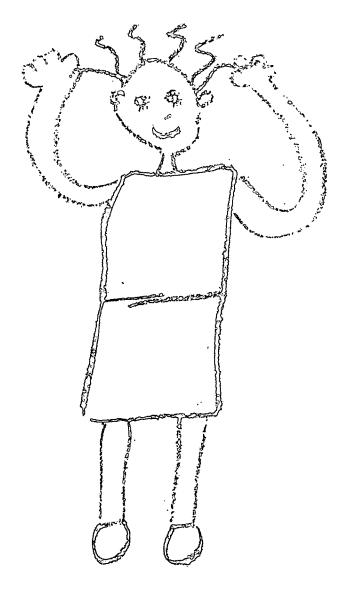


Figure 1. "I'm pulling my hair out. [Interviewer: And you're down to 1,2,3,4,5,6 strands!] Yes! There's so much change, not just within our school with the different administration, but there's enough change in my program . . . it's always changing and I don't feel like I've done the same thing very long. . . . [Interviewer: So, there's no sense of stability.] No. And, really with the way technology changes, I keep thinking, when will there be a little bit of stability?"

Modifications to drawing: None.



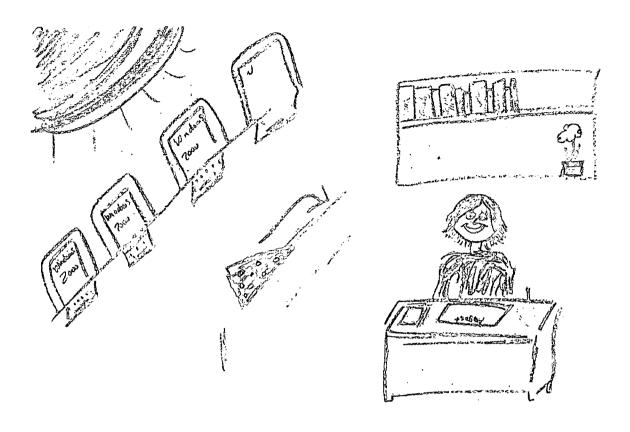


Figure 2. "This is the change in administration . . . and, overall, that's the kind of thing that makes me real happy. I'm an individual who likes change, gets bored with the same-o, same-o, so for me it meant a lot of good things. This is the cheese moving. When he [new administrator] moved in, he gave us this book on moving our cheese. Then I smiled because I thought that was a good illustration [that] change is good for any organization and we needed one at the time. Even though we're inside, the sun is shining because it made me happy. . . . It's August and I'm smiling, so that's something new and different. . . . So I'm wearing purple. It's a happy color, one of my good colors."

Modifications to Drawing: None.



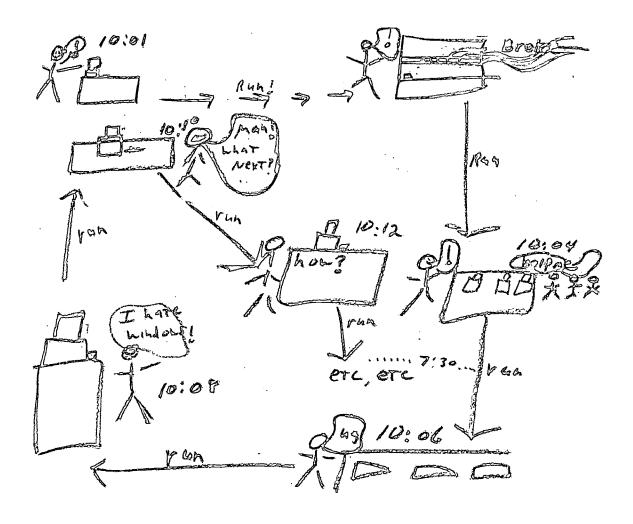


Figure 3. "Here I am working on something, running to the next deal, and it might be 10:02 there and something's broke and I'm, 'Ohhhh'. And I'm still thinking about this back here [pointing to previous figure]. I run to the next one and it might be 10:04 and there's lots of people here, 'help me, help me.' I run to a different place in the school and it might be 10:06 and I'm 'what is wrong' and I'm still thinking about this and these people and probably this [pointing to previous figures], and now I've got one, two, three, four things by 10:06. [I] then run to here and at 10:08 I spend a lot of time hating Windows. So here I am. I hate Windows and I'm still thinking about these back here and it keeps piling up and then at 10:10, I'm finally saying 'what's next.' I run to the next one at 10:12 and 'how do I fix this' and it just keeps going like that."

Modifications to drawing: None.

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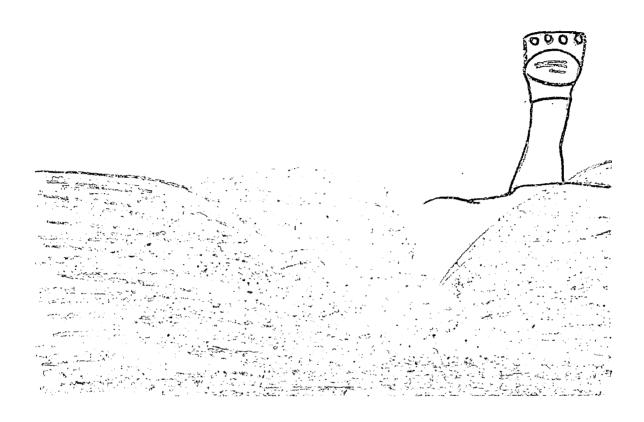


Figure 4. "What I drew here was the beach. But in the beginning, it was pretty rough waters. . . . because I didn't know what he [new administrator] was going to expect, if he was going to expect things to be done differently in my program. I'm pretty new at it anyway and I was just getting settled in, [getting] comfortable with it and then he came, so this was more me feeling this way. . . . [Interviewer: So, really, anxiety over the unknown.] Anxiety, uh-huh. And since then, it's been smooth, smooth waters with me. I'm very relaxed. This is my lighthouse and it's supposed to be my lighthouse at the end of the tunnel because there's been so many things thrown at me that I didn't know if I was going to survive it or not. I mean mentally, physically, emotionally, or anything. And now I see a light at the end of the tunnel and a lot of that has to do with the [new] administration."

Modifications to drawing: Brown and blue colors were darkened to allow for reproduction.



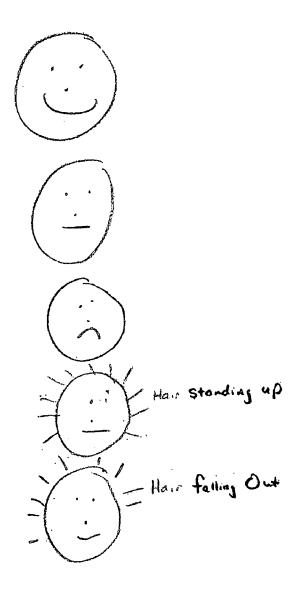


Figure 5. "We had a new change of administration and when he [new administrator] came in, he was just great to respond to changes and that was great because so many times before that we wanted to do a change, it was kind of put on the back burner . . . I was real glad about that Then I [took a different role] and that one made me happy too. . . . I was hoping everything going right . . . so I really wasn't quite smiling yet. . . . Everything built up and that was to be expected On the second semester, you're thinking things are [going well] . . . but it hadn't so your hair is standing up. . . . [You're] hoping it will improve. And it has to some extent but it might take a long time. So my hair is kind of falling out this semester."

Modifications to drawing: None.

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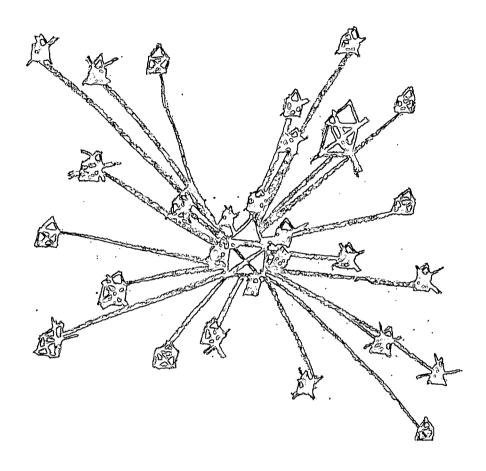


Figure 6. "We have our state headquarters in [city] and . . . we [the technology schools] are still just hands throughout, servicing quite a few people. And we're all locally governed and if they are to try to take control There's no way that they can reach out that far to govern us because we are so much different from this or this [pointing to locations on drawing]. So the next step would be to eliminate so they have just a few, if even this many My thought is that they will, of course, keep them near the big cities."

Modifications to drawing: Outline of state in original drawing was replaced with ellipse.



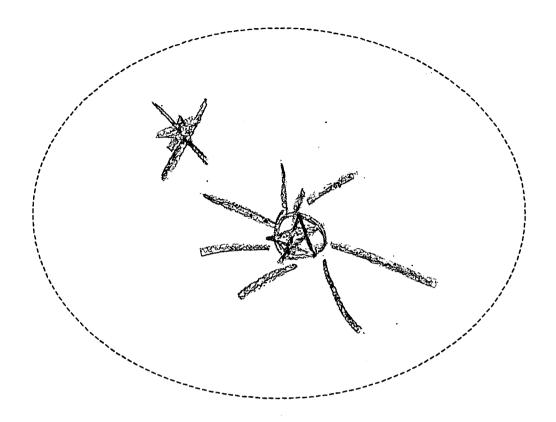


Figure 7. "I wanted to write [governor's name] out there but I wrote [name of governer's plan to increase high school graduation requirements]. As a state capitol they're going to make some decisions . . . that will affect everybody in the state and basically wipe us out. I think that I could really take the math test so maybe I can come back and teach in high school math [laughter]. Since they're going to make everybody have four years of math, I might have a job."

Modifications to drawing: Outline of state in original drawing was replaced with ellipse. Name of governor's plan removed.



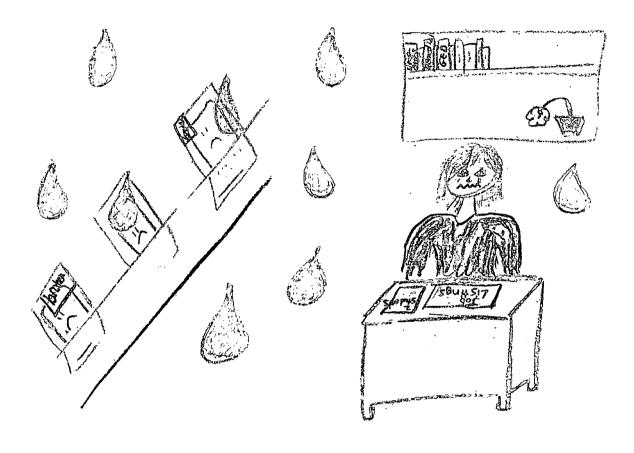


Figure 8. "This is if Governor [name] gets his... plan in. It's very scary what it's going to do. I'm looking for job listings. I have to find a new job. The flower is dying. It's raining. The computers that used to be running perfectly are all broken. Repair orders for [computer support person] to fix them [are done] but he's probably been fired anyway. My books on the shelf, I have one on GEDs, one on remedial, and one on drop outs. I see lots of bad things happening if the state level happens [the way] they want it to happen."

Modifications to drawing: None.



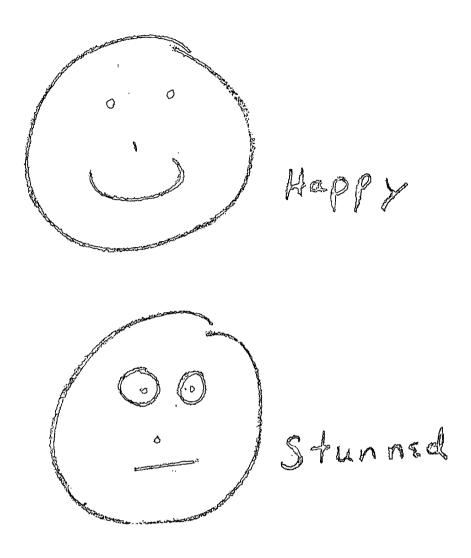


Figure 9. "The happy was because I've always known this institution and the [technical] system to be trying to stay ahead in technology and working with everybody. . . . It's just a wonderful system I've always seen the positive things. Then here in the last few months, especially when they're trying to do something to [state director's name] who is just a jewel of a person, that kind of stunned me."

Modifications to drawing: None.

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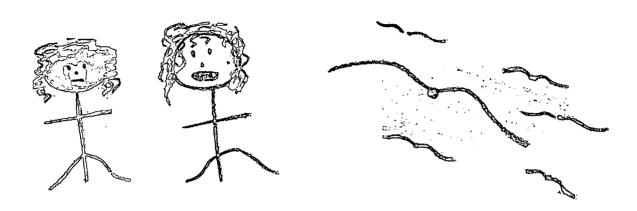


Figure 10. "This is where I'm angry. And this is where I'm frustrated [and] gritting my teeth. You would probably think of this as serene [pointing to birds in flight]. No! I hate to fly... It scares me to death! And the insecurity I feel in an airplane, I absolutely hate it.... But that's my feeling of insecurity. I feel only negative things when it comes to what [governor's name] is proposing."

Modifications to drawing: None





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